THORLABS

Cuvette Holder

CVH100, CVH100/M
Operation Manual

2011

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We aim to develop and produce the best solution for your application in the field of optical measurement technique. To help us to come up to your expectations and develop our products permanently we need your ideas and suggestions. Therefore, please let us know about possible criticism or ideas. We and our international partners are looking forward to hearing from you.

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WARNING

Sections marked with this heading explain dangers that might result in personal injury or death. Always read the associated information carefully before performing the indicated procedure.

ATTENTION

Paragraphs preceded by this symbol in the manual explain hazards that could damage the instrument and connected equipment or may cause loss of data.

NOTE

This manual also contains "NOTES" and "HINTS" written in this form.

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1. General Information

1.2 Safety

Attention

All statements regarding safety of operation and technical data in this instruction manual will only apply when the unit is operated correctly as it was designed for.

Only with written consent from *Thorlabs* may changes to single components be carried out or components not supplied by *Thorlabs* be used.

This precision device is only transportable if duly packed into the complete original packaging. If necessary, ask for a replacement package.

WARNING

Please take care when using broadband light sources, the infrared component can dramatically heat up your cuvette, probe material as well the CVH100.
This is especially important when solvents with a low boiling point are used as they evaporate or can even catch fire.
Always use well ventilated areas as solvent fumes may harm your health. Use suitable cuvette materials for measuring solvent based solutions.

1.3 At a Glance

The CVH100 cuvette holder was designed for spectrally evaluating liquid solutions by using standard 12.5 x12.5mm cuvettes, with 10mm light path, in combination with a light source.

The four port design allows for transmission, absorption and fluorescence measurements. An inline filter holder lets you use a wide range of mounted 1" filters.

The CHV100 is compatible with our CCS spectrometer series as SMA fibers can be connected to any port via the included collimator.

Compatibility with the Thorlabs 30mm cage system and an internal SM1 tread on all four light port, offer a wide range of additional setup options and allows easy integration in existing systems.

1.4 Ordering Codes and Accessories

Ordering code	Short description
CVH100	CVH100 cuvette holder, UNC ¼" post mount
CVH100/M	CVH100 cuvette holder, M6 post mount

Accessories

CVH100-COL	SMA fiber port (SM1) with ½" lens mounting option
CCS150	Compact spectrometer 200 – 400 nm
CCS100	Compact spectrometer 350 – 700 nm
CCS175	Compact spectrometer 500 – 1000 nm

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2. Getting started

Unpacking the CVH100

Inspect the shipping container for damage.

If the shipping container seems to be damaged, keep it until you have inspected the contents and you have inspected the CVH100.

Verify that you have received the following items:

- CVH100 cuvette holder
- SMA collimator with dust cap
- Filter holder
- 2x SM1 end caps
- Operation Manual

The included SMA collimator has an outer SM1 thread and comes with a glued-in aspheric condenser lens (ACL108, OD=10mm, EFL=8mm, no AR coating).

The CVH100-COL is an optional accessory (to be purchased separately). This collimator has a SMA fiber port and an outer SM1 thread as well, but it comes with no lens. Please refer to the CVH100-COL's Quick Reference Guide or see Thorlabs' web site.

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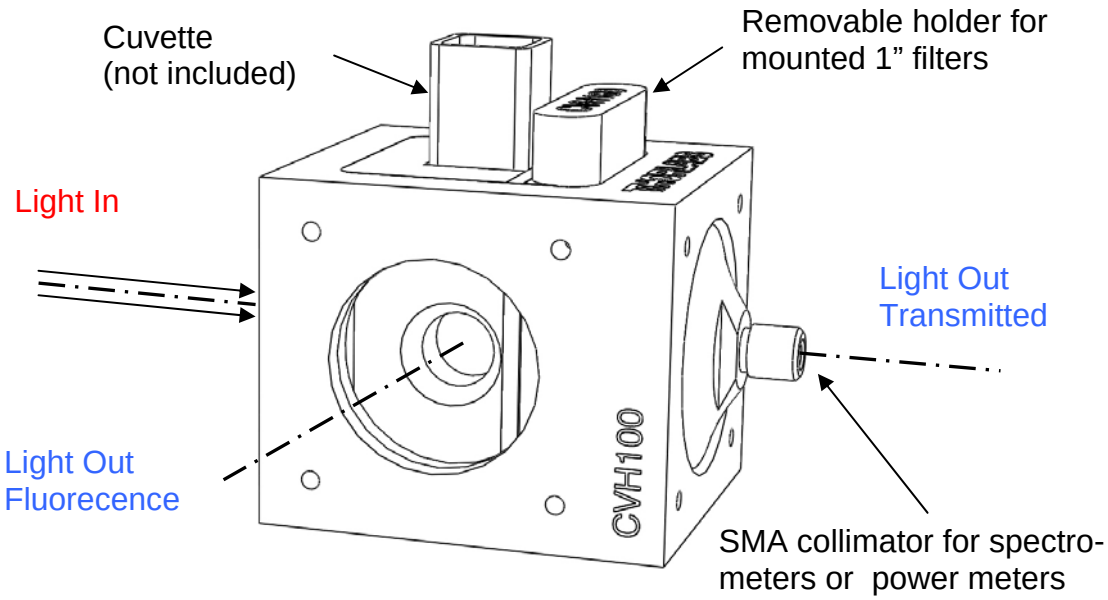
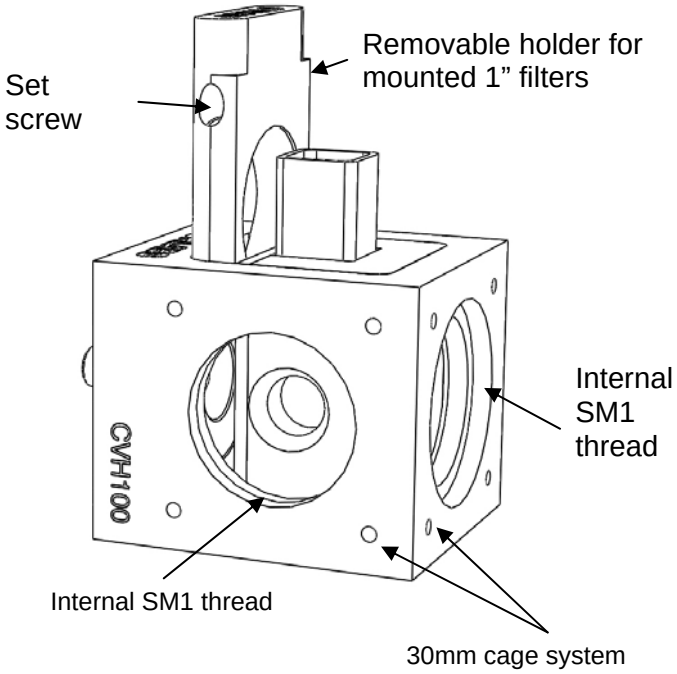
3. Using the CVH100

The following pictures shows the light ports as well as the mechanical mounts available on the CVH100 cuvette holder.





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Thorlabs offers a wide range of lasers, LED and black body sources. The following table gives an overview about the different light sources.

Model	Notes
MxxxL2	Mounted LED, compatible with LEDD1B, DC2100 and DC4100 LED drivers
TLS001-635	T-Cube Laser Source, 635 nm
S1FCxxx	Benchtop laser sources
OSL1	Tungsten white light source

Filter type	In line filter holder	internal SM1 thread
Fluorescence imaging	X	
band and edge pass	X	
Laser line filters	X	
mirrors (side port)		X
mounted ND filters		X

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4. Technical Data

Item #	CVH100	CVH100/M
Outer Cuvettes Dimensions	12.5 mm x 12.5 mm x 45 mm	
Cuvette Types	Macro and Micro Cuvettes with 10 mm Light Path	
Window Sizes		
Input (Main Optical Axis)	9 mm x 14 mm	
Output (Main Optical Axis)	Ø12 mm	
Side Ports (Secondary Optical Axis)	Ø9 mm	
Optical		
In-Line Filter Holder*	Mounted Ø1" Filters	
Filter Thickness	Max 7 mm	
Fiber Port	SMA (removable)	
Collimator Lens	Uncoated Glass N-BK7	
Mounting		
Main Optical Axis	Sunk SM1 Internal Thread (Optimized for Lens Tubes)	
	30 mm Cage System	
Secondary Optical Axis (90° to Main Axis)	SM1 Internal Thread	
	30 mm Cage System	
Post Mount	UNC 1/4"	M6
General Specs		
Material (Main Body / Collimator)	Aluminum Black Anodized / Stainless Steel	
Weight	280 g	
Dimensions w/o Collimator (WxHxD)**	44 mm x 42 mm x 49 mm	
Dimensions w/ Collimator (WxHxD)**	44 mm x 42 mm x 60 mm	

* Filters sold separately
** Height with filter holder: h = 50 mm

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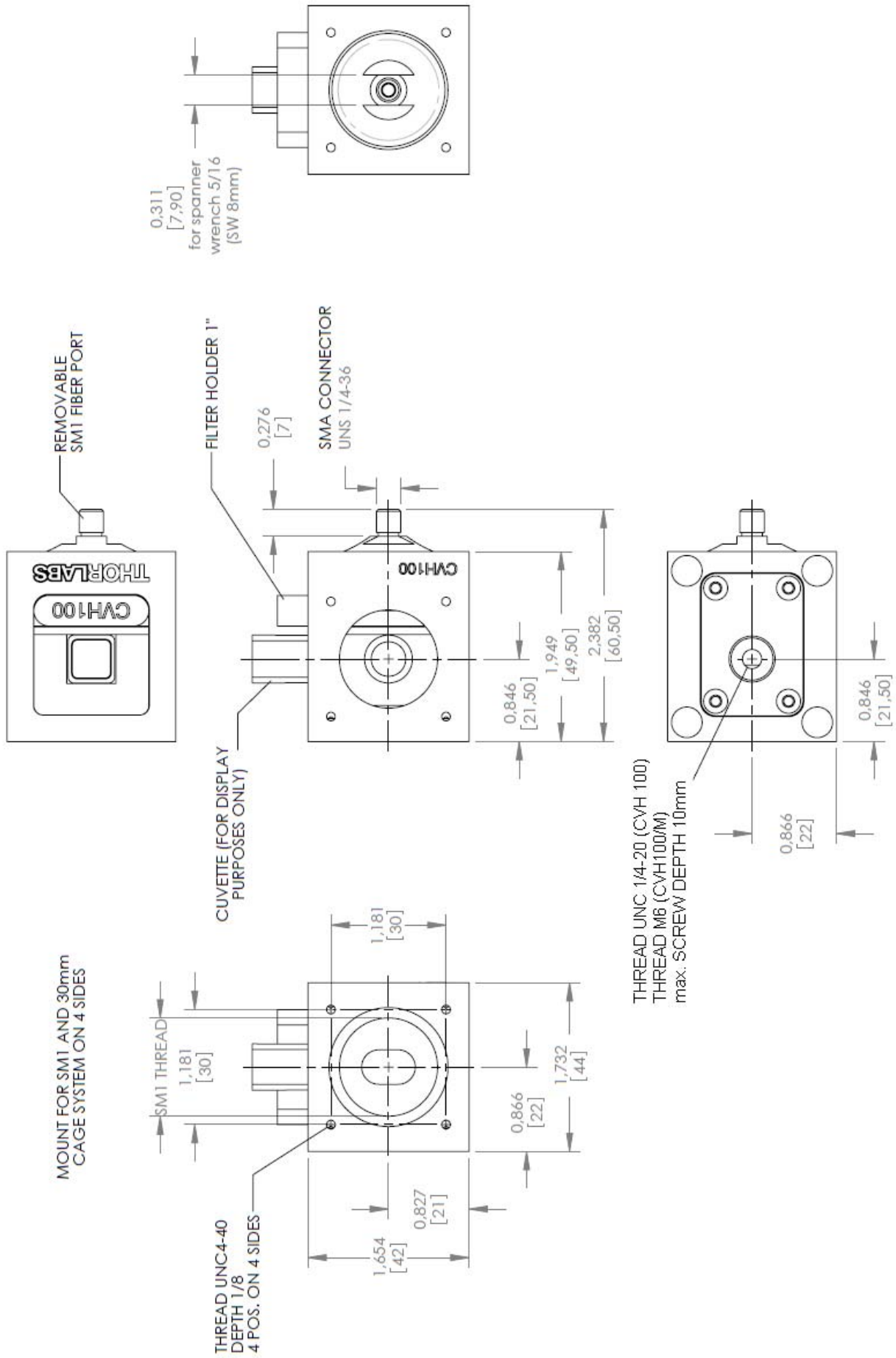
5. Drawings and Dimensions



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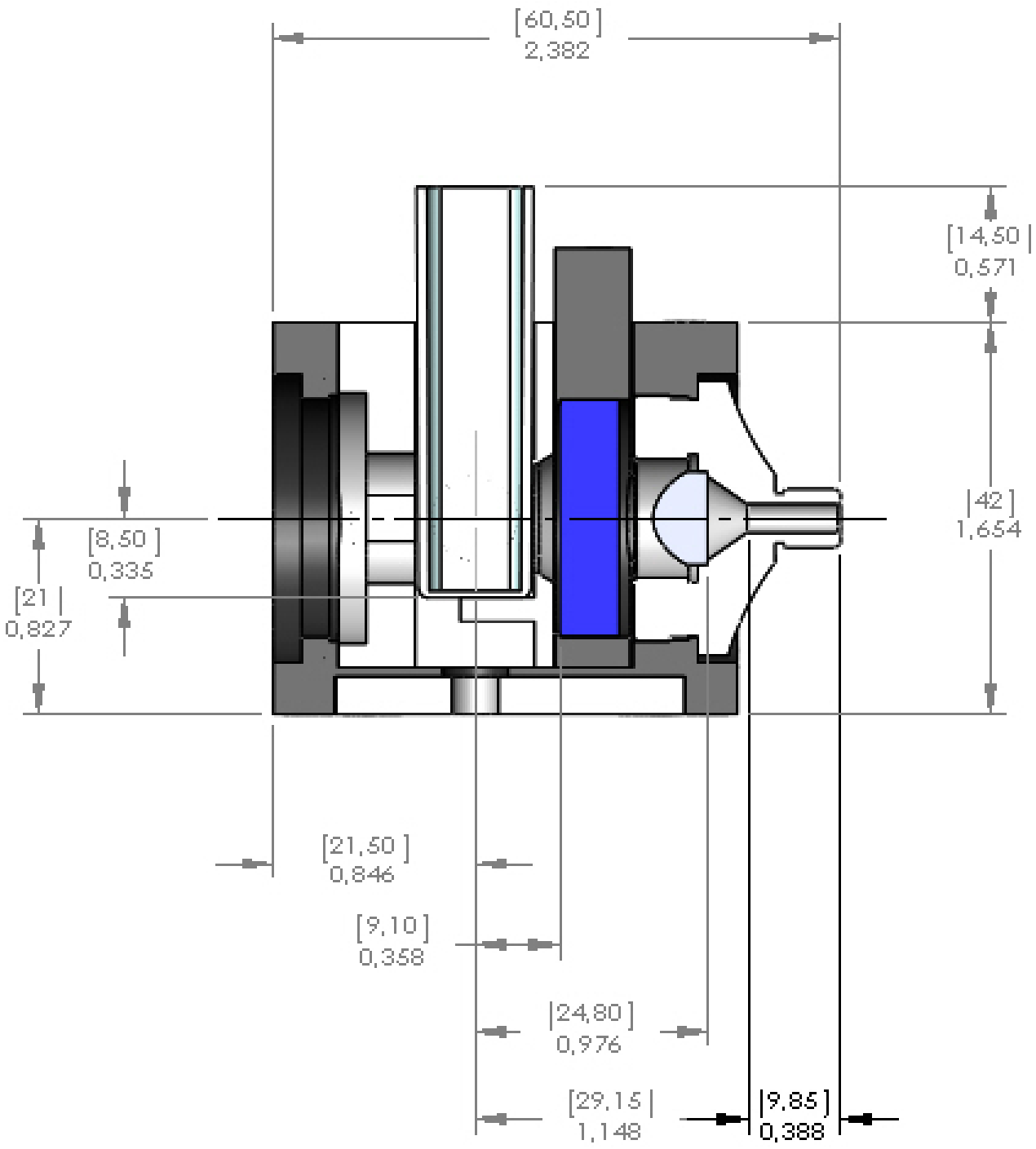

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6. Warranty

Thorlabs warrants material and production of the CVH100 for a period of 24 months starting with the date of shipment. During this warranty period *Thorlabs* will see to defaults by repair or by exchange if these are still entitled to warranty. For warranty repairs or service the unit must be sent back to *Thorlabs Germany* or to a place determined by *Thorlabs*. The customer will carry the shipping costs back to *Thorlabs,* in case of warranty repairs *Thorlabs* will carry the shipping costs back to the customer. If no warranty repair is applicable the customer will also carry the costs for back shipment. If the unit is sent back to *Thorlabs* from abroad the customer will carry all shipping costs, duties etc. which should arise for sending the goods back to *Thorlabs*.

Thorlabs warrants the hardware and software determined by *Thorlabs* for this unit to operate without fault provided that they are handled according to our statements. However, *Thorlabs* does not warrant a fault free or uninterrupted operation of the unit, of the software or firmware for special applications nor this operation manual to be fault free. We will not carry responsibility for ensuing damages.

Restriction of warranty

The aforementioned warranty does not cover errors and defects being the result of improper treatment, software and interface not supplied by us, modification, misuse or operation outside the defined ambient conditions stated by us or unauthorized maintenance.

Further claims will not be consented to and will not be acknowledged. *Thorlabs* does explicitly not warrant the usability or the economical use for certain cases of application.

Thorlabs reserves the right to change this operation manual or the technical data of the described unit at any time.

7. Copyright

Thorlabs GmbH has taken every possible care in preparing this Operation Manual. We however assume no liability for the content, completeness or quality of the information contained therein. The content of this manual is regularly updated and adapted to reflect the current status of the software. We furthermore do not guarantee that this product will function without errors, even if the stated specifications are adhered to.

Under no circumstances can we guarantee that a particular objective can be achieved with the purchase of this product.

Insofar as permitted under statutory regulations, we assume no liability for direct damage, indirect damage or damages suffered by third parties resulting from the purchase of this product. In no event shall any liability exceed the purchase price of the product.

Please note that the content of this User Manual is neither part of any previous or existing agreement, promise, representation or legal relationship, nor an alteration or amendment thereof. All obligations of *Thorlabs GmbH* result from the respective contract of sale, which also includes the complete and exclusively applicable warranty regulations. These contractual warranty regulations are neither extended nor limited by the information contained in this User Manual. Should you require further information on this product, or encounter specific problems that are not discussed in sufficient detail in the User Manual, please contact your local *Thorlabs* dealer or system installer.

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8. Thorlabs “End of Life” Policy (WEEE)

As required by the WEEE (Waste Electrical and Electronic Equipment Directive) of the European Community and the corresponding national laws, Thorlabs offers all end users in the EC the possibility to return “end of life” units without incurring disposal charges.

This offer is valid for Thorlabs electrical and electronic equipment

- sold after August 13th 2005
- marked correspondingly with the crossed out “wheelie bin” logo (see below)
- sold to a company or institute within the EC
- currently owned by a company or institute within the EC
- still complete, not disassembled and not contaminated

As the WEEE directive applies to self contained operational electrical and electronic products, this “end of life” take back service does not refer to other Thorlabs products, such as

- pure OEM products, that means assemblies to be built into a unit by the user (e. g. OEM laser driver cards)
- components
- mechanics and optics
- left over parts of units disassembled by the user (PCB’s, housings etc.).

If you wish to return a Thorlabs unit for waste recovery, please contact Thorlabs or your nearest dealer for further information.

Waste treatment on your own responsibility
If you do not return an “end of life” unit to Thorlabs, you must hand it to a company specialized in waste recovery. Do not dispose of the unit in a litter bin or at a public waste disposal site.

Ecological background
It is well known that WEEE pollutes the environment by releasing toxic products during decomposition. The aim of the European RoHS directive is to reduce the content of toxic substances in electronic products in the future.
The intent of the WEEE directive is to enforce the recycling of WEEE. A controlled recycling of end of live products will thereby avoid negative impacts on the environment.

Crossed out “wheelie bin” symbol

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9. Thorlabs Worldwide Contacts

USA, Canada, and South America
Thorlabs, Inc.
435 Route 206
Newton, NJ 07860
USA
Tel: 973-579-7227
Fax: 973-300-3600
www.thorlabs.com
www.thorlabs.us (West Coast)
Email: sales@thorlabs.com
Support: techsupport@thorlabs.com

Europe
Thorlabs GmbH
Hans-Böckler-Str. 6
85221 Dachau
Germany
Tel: +49-8131-5956-0
Fax: +49-8131-5956-99
www.thorlabs.de
Email: europe@thorlabs.com

France
Thorlabs SAS
109, rue des Côtes
78600 Maisons-Laffitte
France
Tel: +33-970 444 844
Fax: +33-811 381 748
www.thorlabs.com
Email: sales.fr@thorlabs.com

Japan
Thorlabs Japan, Inc.
Higashi Ikebukuro
Q Building 1st Floor 2-23-2
Toshima-ku, Tokyo 170-0013
Japan
Tel: +81-3-5979-8889
Fax: +81-3-5979-7285
www.thorlabs.jp
Email: sales@thorlabs.jp

UK and Ireland
Thorlabs Ltd.
1 Saint Thomas Place, Ely
Cambridgeshire CB7 4EX
Great Britain
Tel: +44-1353-654440
Fax: +44-1353-654444
www.thorlabs.com
Email: sales.uk@thorlabs.com
Support: techsupport.uk@thorlabs.com

Scandinavia
Thorlabs Sweden AB
Box 141 94
400 20 Göteborg
Sweden
Tel: +46-31-733-30-00
Fax: +46-31-703-40-45
www.thorlabs.com
Email: scandinavia@thorlabs.com

China
Thorlabs China
Room A101, No. 100
Lane 2891, South Qiliashan Road
Putuo District
Shanghai
China
Tel: +86-21-60561122
Fax: +86-21-32513480
www.thorlabs.hk
Email: chinasales@thorlabs.com

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